Bouc-Wen hysteresis parameter optimization for magnetorheological damper using Cuckoo search algorithm

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ABSTRACT
This paper proposed an optimized Phenomenological Bouc-Wen model for MR damper. Cuckoo search algorithm is used to optimize the parameters in phenomenological Bouc-Wen model. These parameters mainly control the hysteresis loop shape of the model. The objective function returns root mean square error, RMSE between the optimized phenomenological Bouc-Wen model and real experimental data of an MR damper. The optimizing efficiency of the proposed CS algorithm evaluated by computing the final value of the fitness function and the iteration numbers it takes to converge.

KEYWORDS
Bouc-Wen model; Cuckoo; MR damper

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